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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Paper No. 21

Application Number: 09/433,202

Filing Date: November 04, 1999

Appellant(s): REITZ ET AL.

Peter S. Dardi, Ph.D.
For Appellant

**SUPPLEMENTAL
EXAMINER'S ANSWER**

This is in response to the appeal brief filed 2/26/01.

(1) Real Party in Interest

A statement identifying the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

(3) Status of Claims

The statement of the status of the claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Invention

The summary of invention contained in the brief is correct.

(6) Issues

The appellant's statement of the issues in the brief is correct.

(7) Grouping of Claims

Appellant's brief includes a statement that claims 1-28 and 31 do not stand or fall together and provides reasons as set forth in 37 CFR 1.192(c)(7) and (c)(8).

(8) ClaimsAppealed

The copy of the appealed claims contained in the Appendix to the brief is correct.

(9) Prior Art of Record

The following is a listing of the prior art of record relied upon in the rejection of claims under appeal.

5,389,194	Rostoker et al.	2-1995
5,935,278	Ishitobi et al.	8-1999
6,001,730	Farkas et al.	12-1999
6,290,735	Kambe et al.	9-2001
09/266,202	Reitz et al.	3-1999

(10) Grounds of Rejection

The following grounds of rejection are applicable to the appealed claims:

(A). Claims 1-28 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rostoker et al. (194) in view of Ishitobi et al. and Farkas et al.

Rostoker et al. (194) teach in column 4, lines 12-24, a polish comprising alumina or silica having a size of between 30-100 nm and a specific distribution.

Ishitobi et al. teach in the abstract, column 3, lines 40-45, column 5, lines 49-50 and the claims, a polish comprising a dispersion (in water) of 2-20% zirconia having a size of 0.001-0.3 microns. The polish can have any pH value (i.e. no limitation is placed on the pH because it is

stated that an acid or base can be added, thus defining all the possible pH values) and can contain an oxidizing agent and a surface active agent.

Farkas et al. teach in the abstract and column 6, lines 14-24 that in polishing composition, the solvent can either be water, alcohol or a mixture thereof. In addition, it is shown that oxidizing agents are conventionally added to polishing compositions.

The primary reference teaches a polish comprising polishing particles having a size and distribution within the claimed range and therefore no distinction is seen to exist because the subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have selected the overlapping portion of the range disclosed by the reference because overlapping ranges have been held to be a *prima facie* case of obviousness, see *In re Malagari*, 182 U.S.P.Q. 549; *In re Wertheim* 191 USPQ 90 (CCPA 1976)". It is also the examiners position that since Rostoker et al. fails to define an amount for the polishing particles, this implies to one skilled in the art that the amount used is a conventional amount and since the claimed amount defines a conventional amount, it is obvious. In addition, it is the examiners position that since the reference fails to mention any specific amount (criticality), this (the absence of any such limitation) constitutes a broad teaching of amounts, as long as the final polish is obtained. In view of this, it can be reasonably interpreted that the claimed amount is encompassed by the broad teachings according to the reference in the absence of any evidence showing the contrary (criticality). It is also the examiners position that it would have been obvious to add a surfactant and an oxidizer in the polish according to Rostoker et al. because Ishitobi et al. teach that these additives are conventionally added to polishes and the use of any known polishing additive would have been well within the level of ordinary skill in the art. With

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respect to the use of a nonaqueous solvent as the dispersing medium, it is the examiners position that this feature is an obvious modification thereof and one skilled in the art would have routinely known that either water or another solvent (nonaqueous) can be used as the dispersing medium. In the alternative, Farkas et al. teach that this concept is well known (either medium can be used). With respect to the polishing process, the primary reference teaches limitations which encompass the instant polishing process, thus making the claimed process obvious.

(B)

Claims 1-32 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over all the pending claims of copending Application No. 09/266,202 in view of Ishitobi et al. and Farkas et al.

Claims 1-32 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-11 copending U.S. patent 6,290,735 in view of Ishitobi et al. and Farkas et al.

Since copending Application No. 08/961,735 has matured into a patent (6,290,735) and the copending application number was used as a basis for a prior rejection, the patent number is used for the purpose of this answer.

The copending application and the prior patent teach dispersions (polishes) comprising particles having sizes within the claimed range and therefore no distinction is seen to exist because the subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have selected the overlapping portion of the range disclosed by the reference because overlapping ranges have been held to be a *prima facie* case of obviousness, see *In re Malagari*, 182 U.S.P.Q. 549; *In re Wertheim* 191 USPQ 90

(CCPA 1976)". It is also the examiners position that since the copending application and prior patent fail to define an amount for the polishing particles, this implies to one skilled in the art the amount used is a conventional amount and since the claimed amount defines a conventional amount, it is obvious. In addition, it is the examiners position that since the copending application and prior patent fail to mention any specific amount (criticality), this (the absence of any such limitation) constitutes a broad teaching of amounts, as long as the final polish is obtained. In view of this, it can be reasonably interpreted that the claimed amount is encompassed by the broad teachings according to these references in the absence of any evidence showing the contrary (criticality). It is also the examiners position that it would have been obvious to add a surfactant and an oxidizer in the polishes according to the copending application and the prior patent because Ishitobi et al. teach that these additives are conventionally added to polishes and the use of any known polishing additive would have been well within the level of ordinary skill in the art. Although the copending application and prior patent fail to claim a polishing method, this method is an obvious variation of the claims. In addition, it is the examiners position that the polishes according to all the copending application and prior patent will abrade the surface of a substrate to produce the claimed roughness in the absence of any evidence showing the contrary. The size of the particles determines the roughness and since the size is the same, it is expected that the surface roughness produced will be the same.

(II) Response to Argument

Appellants agree with the examiner that the Rostoker et al. patent does disclose a particle size distribution. Although appellants acknowledge this, they struggle to understand the asserted distribution and request explanation by the examiner. It is the examiners position that from the passage in column 7, lines 4-17, it is clear what the distribution is and therefore no explanation is deemed necessary. Assuming arguendo, many of the claims do not even define a distribution because the phrase "less than" reads on zero, thus no distribution is present. In view of overlapping sizes and distributions, the subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have selected the overlapping portion of the range disclosed by the reference because overlapping ranges have been held to be a *prima facie case of obviousness*, see *In re Malagari*, 182 U.S.P.Q. 549). Appellants argue that this case law is not relevant. The examiner does not agree.

Appellants also argue that Rostoker et al. produces the particles by the Siegel et al. patent (5,128,081) method. The examiner disagrees because Rostoker et al. does not state that this is the only method of making the particles, but rather uses the Siegel et al. reference as showing a known **possible** method. Rostoker et al. does limit the method to the Siegel et al. method, as argued by the appellants. Appellants also appear to argue that the particles taught in the Rostoker et al. patent are those of the Siegel et al. patent. Appellants are apparently ignoring the teachings in column 7, the examples and the claims which define that the particles have the claimed distribution.

Appellants also argue that the particle size distribution of Rostoker et al. (194) is a gaussian distribution with a corresponding large tail. Appellants have not provided any evidence to support this. The conventional definition of a gaussian distribution is that the distribution curve has the shape of a normal probability curve (bell curve). This definition does not set forth that the distribution has a large tail. To support appellants contentions, appellants refer to the Siegel et al. patent and various other publications. The examiner fails to see the relevance of these publications and how they can be used to support appellants argument. Even if a tail was present in Rostoker et al. (examiner is not agreeing with appellants), (1) the instant claims do not preclude the presence of a tail (i.e. distribution would have a tail) and (2) appellants have not shown that any tail defined by Rostoker et al. would not fall within the claimed distribution.

Appellants argue the declaration by Nobuyuki Kambe, but this declaration **does not** show any evidence rebutting the obviousness rejections. The declaration appears to state that the synthesis of the reference is not capable of producing nanoparticles as defined by the claimed invention. **This is not convincing because Rostoker et al. teach particles having sizes within the claimed range and therefore a prima facie case of obviousness is established.** Since the particles have the same size and distribution, they **must have been produced by some method.** In addition, the declaration is based on opinions which are not substantiated by clear and convincing evidence.

Appellants also appear to argue that **the distribution must considered separately since it is an independent property (page 29 of the brief).** The examiner acknowledges this, but

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Rostoker et al. does teach a distribution, thus this feature has been independently considered contrary to appellants position.

With respect to the other **patents** used in the additional rejections defined in the final action (and argued in the brief), since these patents have not been applied in the examiners answer, no comment is deemed necessary.

Appellants argue that the copending application and prior patent fails to define the claimed distribution. The examiner disagrees because although said distribution is not **literally defined**, the claims define distributions which can broadly read on the claimed distributions.

In addition, the claims of the copending application and the prior patent claim "particles" and this renders the instant claim of "a collection of particles" obvious. Appellants also argue that the copending application is not directed to a dispersion of particles. Although this is the case, the dispersion aspect is deemed obvious to the skilled artisan if it was desired to make a slurry (i.e. for polishing).

Finally, in view of the terminal disclaimers submitted on 2/26/01, the rejections based on copending Application No. 09/085,514 and copending Application No. 09/136,483, both as the primary reference, has been withdrawn. The final rejections not made part of this answer are also withdrawn in view of appellants remarks.

For the above reasons, it is believed that the rejections should be sustained.

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Respectfully submitted,

Michael A Marcheschi
Primary Examiner
Art Unit 1755

Michael Marcheschi
July 7, 2003

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